UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
EMERGENCY RESPONSE BRANCH
9311 GROH ROAD, ROOM 216
GROSSE ILE, MI 48138-1697

MAY 17 2005

REPLY TO ATTENTION OF

ACTION MEMORANDUM

SUBJECT: ENFORCEMENT ACTION MEMORANDUM - Determination of Threat to Public Health and the Environment and Selection of a Time-Critical Removal Action at the N-Forcer Site in Dearborn, Wayne County, Michigan (Site ID #B55P)

FROM: Brian Kelly, On-Scene Coordinator
Emergency Response Section 1

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda Nachowicz, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this Memorandum is to document the determination: (1) of an imminent and substantial threat to public health, welfare, and (2) of the need to conduct a time-critical removal action to abate that threat on the railroad tracks adjacent to the former W.R. Grace facility at 14300 Henn Street, Dearborn, Michigan. The railroad tracks are owned by CSX Transportation, Inc. (CSXT). It is believed CSXT or its predecessor transported the asbestos-tainted vermiculite to the former W.R. Grace facility. Because the railroad track property contains contamination associated with the former W.R. Grace facility originally defined as the N-Forcer Site, the railroad tracks are now also considered part of that Site.

The proposed removal action is necessary to mitigate the immediate threat to public health posed by the presence of fibrous amphibole Libby Asbestos (LA) in all its forms. The LA contamination is the result of, but not limited to, expansion of LA-tainted vermiculite at the N-Forcer site and spills from rail transportation of that vermiculite.

The response action proposed will mitigate the threats by: identifying surface and subsurface areas contaminated with LA; and removing LA from surface and subsurface areas where the LA is present at levels above 1% or which may pose an inhalation hazard.

The presence of LA at and near the surface at the concentrations documented, in an area with potential access by the public where train traffic may reaerosolize the LA, justifies classifying this as a time-critical removal action.

Asbestos removals are nationally significant. U.S. EPA is following Agency for Toxic Substances and Disease Registry (ATSDR), Michigan Department of Community Health (MDCH), and Michigan Department of Environmental Quality (MDEQ) guidance on cleanup levels. This action is an extension of the Fund-lead removal action for which U.S. EPA Headquarters concurrence was obtained. The N-Forcer Site is not on the National Priorities List.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID #MIN 000 508 756

A. Site Description and Background

The former W.R. Grace & Company (WRG) Dearborn plant (also known as the Henn Street Facility, Dearborn plant, and N-Forcer Site) is located at 14300 Henn Street, Dearborn, Wayne County, Michigan, 48126. For the purposes of this Enforcement Action Memo background information will concentrate on information relevant to the railroad tracks. Further information on W.R. Grace operations is available in the February 27, 2005, Action Memorandum for the N-Forcer Site.

According to WRG shipping records, the Dearborn plant processed about 206,000 tons of LA-tainted vermiculite ore from Libby, Montana. The vermiculite was shipped to the plant by rail. Over time, it became known that vermiculite ore mined from Libby was contaminated with asbestos fibers, including the amphibole asbestos varieties tremolite and actinolite, as well as the related fibrous asbestiform minerals winchite, richterite, and ferro-edenite. In this document, the asbestos in Libby vermiculite, in all its forms, is referred to as LA.

Studies throughout the 1980s indicated that vermiculite workers showed increased rates of asbestos-related respiratory diseases. The findings at Libby and sites processing ore from Libby provided the impetus for investigating the Dearborn Site, as well as other sites across the nation that received asbestos-contaminated vermiculite from the Libby mine.

The rail line owned by CSXT is located immediately adjacent to the north and east of the former W.R. Grace operations. The LA contamination identified and removed from the former W.R. Grace facility extended to and beyond the boundary of CSXT's rail line property. CSXT's rail line and spur lines were also used for loading and unloading of materials contaminated with LA.

B. Site Visits and Sampling

On September 27, 2002, staff from ATSDR, U.S. EPA, and MDCH visited the N-Forcer Site as part of ATSDR's National Asbestos Exposure Review. During this visit, staff observed vermiculite ore on the ground on the north and southeast areas of the Site. At the time, staff did not know the precise property line separating the current owner Die, Mold & Automation Components, Inc. (DMACI) and CSX Transportation Inc. (CSXT).

These findings led ATSDR to ask U.S. EPA to take several on-site soil samples for asbestos. On January 14, 2003, U.S. EPA collected four composite and two grab soil samples from around the property. Two of these samples SC-3 and GB-1 were inadvertently taken on CSXT property. Analysis of these samples showed concentrations of tremolite between 1.9% and 2.6%. In addition, the field staff documented visible tremolite in a wide area of what is now known to be CSXT property. These finds were documented in the *Site Assessment Report for the N-Forcer Site,* dated December 4, 2003. The report widely attributes the word tremolite to what is more accurately called Libby Amphiboles.

C. Discussions with CSXT Prior to U.S. EPA Removal

On July 9, 2003, a General Notice of Potential Liability was sent to the property owner CSXT.

On August 29, 2003, CSXT responded to the General Notice of Potential Liability denying liability for owning tracks on the N-Forcer Site. (CSXT subsequently acknowledged that it does own the tracks adjacent to the N-Forcer Site where U.S. EPA samples and photographic documentation show LA.)

On November 12, 2004, CSXT sampled the railroad property adjacent to the N-Forcer Site. During a conference call on November 16, 2004, CSXT reported to U.S. EPA the findings from the first round of samples, which did not detect LA. During the call U.S. EPA told CSXT that sample results from U.S. EPA's Site Assessment showed LA at levels between 1 and 3 percent immediately next to CSXT's property (at locations later determined to actually be *on* CSXT property). After several emails and phone calls, on February 18, 2005, CSXT forwarded the remaining sample results, which showed one sample containing asbestos.

D. Discussions with CSXT During U.S. EPA Removal

On April 4, 2005, U.S. EPA initiated a removal action at the N-Forcer Site. During the first week of site work, U.S. EPA completed a property survey that showed two of the samples taken during the Site Assessment were actually, inadvertently, taken just inside the CSXT property boundary.

On April 7, 2005, U.S. EPA sent a letter to CSXT following up on the previous Notice Letter and several phone calls and e-mails asking CSXT to perform a cleanup on CSXT property, U.S. EPA also transmitted photographs showing the contamination and a copy of the 2003 Site Assessment.

On April 11, 2005, U.S. EPA requested access to CSXT property. In addition, a sample taken by U.S. EPA of material accessible from the former W.R. Grace property of material on CSXT's property showed 100% richterite.

On April 12, 2005, CSXT agreed to perform a cleanup if U.S. EPA would coordinate transportation and disposal of the CSXT material with U.S. EPA's on-going work on the adjacent property. On April 18, 2005, CSXT's contractor ARCADIS visited the site and was shown by U.S. EPA visible asbestos on CSXT's property.

On April 21, 2005, U.S. EPA sent CSXT an email asking for CSXT to submit to U.S. EPA a work plan by April 28, 2005. On April 29, 2005, CSXT sent U.S. EPA a letter recognizing that its delay in responding would make coordinating transportation and disposal with U.S. EPA's removal activities impossible. CSXT stated that would be performing the work without assistance from U.S. EPA and would start the work as soon as possible.

On April 30, 2005, U.S. EPA again requested to review the work plan before it was implemented.

U.S. EPA now intends to issue a unilateral administrative order to CSXT to assure that CSXT's cleanup activities will be properly planned, monitored and implemented.

E. Community Characteristics

In Michigan, the low-income percentage is 29% and the minority percentage is 18%. To meet the Environmental Justice (EJ) concern criteria, the area within 1 mile of the Site must have a population that is twice the state low-income percentage and/or twice the state minority percentage. That is, the area must be at least 58% low-income and/or 36% minority. At this Site, the low-income percentage is 51% and the minority percentage is 23% as determined by Arcview 3.0 EJ analysis. Therefore, this Site does not meet the Region's EJ criteria based on demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998."

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

The conditions on CSXT's rail line at the N-Forcer Site present an imminent and substantial threat to the public health, or welfare, and the environment, and meet the criteria for a time-critical removal action provided for in the National Contingency Plan (NCP), Section 300.415, Paragraph (b)(2). These criteria include, but are not limited to, the following:

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances;

As documented by soil samples, the concentrations of asbestos found in the surface soil show a human exposure pathway exists. Because the asbestos is at the surface and trains frequently pass through the area, the potential exists for asbestos to be aerosolized.

The health hazards presented by LA and LA-contaminated materials are described in detail in the Health Consultation prepared for the Site by the MDCH on behalf of ATSDR. MDCH and ATSDR recommended taking measures to eliminate or reduce future exposures to LA contamination in on-Site soils. The findings are summarized in the February 27, 2005, Action Memorandum for the N-Forcer Site. Winchite, richterite, ferro-edenite, and other Libby type amphibole asbestos forms are hazardous substances under CERCLA.

(ii) High levels of hazardous substances in soils largely at or near the surface, that may migrate;

Asbestos is visible on the surface on CSXT's property, and could be reaerosolized and transported off-site by vehicles, trains, and pedestrian traffic.

Currently U.S. EPA has not established an asbestos level in soil below which an exposure does not pose a risk. MDEQ has identified an asbestos cleanup criteria of 1% based on detection limits, which is a default to the "target detection limit." U.S. EPA has determined that in certain settings, concentrations of less than 1% posed unacceptable inhalation risks when subject to disturbance.

(iii) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Wind, particularly in dry summer months, can also lead to migration of asbestos fibers from contaminated surfaces. Rainfall and snow melt would also tend to wash the fibers off CSXT's property and on to nearby property. Migration of asbestos back onto other portions of the N-Forcer Site could compromise U.S. EPA's removal action.

(iv) The availability of other appropriate Federal or State response mechanisms to respond to the release;

No other Local, State, or Federal agency is in the position or currently has the resources to independently oversee an effective response action to address the on-going threats presented on CSXT's property. U.S. EPA will conduct its actions in cooperation with State and local authorities to the extent practicable. ATSDR, MDCH, and MDEQ have requested U.S. EPA assistance

IV. ENDANGERMENT DETERMINATION

The fibrous minerals found on CSXT's property are LA amphibole asbestos. Asbestos can cause asbestosis and is a recognized human carcinogen, causing lung cancer and *mesothelioma, a lethal neoplasm of the lining of the chest and abdominal cavities.* Cancer of the larynx and esophageal lining has also been associated with exposure to asbestos. Commercial forms of asbestos have been found to be carcinogenic in experimental animals. The ATSDR and MDCH have recommended actions to remove the threat and close the human exposure pathways.

Given the Site conditions, the nature of the hazardous substance on-Site, and the potential exposure pathways described in Sections II and III above, actual and threatened releases at and from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, and the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The OSC proposes the following actions to be undertaken by CSXT to mitigate the potential threats posed by the presence of hazardous substances:

1. Develop and implement a Health and Safety Plan;
2. Develop, submit for U.S. EPA approval, and implement a work plan to locate, excavate and remove LA-contaminated soils and surfaces to a maximum depth of 18 inches or otherwise prevent exposure from areas contaminated with $\geq$1% asbestos or which may pose an inhalation hazard;
3. Dispose of contaminated soils at a U.S. EPA-approved off-site disposal facility in accordance with the U.S. EPA Off-Site Rule (40 CFR §300.440);
4. Perform personal air sampling and ambient air sampling during removal activities;
5. Implement engineering measures to control dust during the cleanup;

6. Install a recognizable marker at the bottom of the excavated area prior to backfill if asbestos remains;
7. Restore the property where the removal actions occur to its previous condition to the extent practicable.

It is important to note that U.S. EPA does not assert that soil concentration of less than 1% LA are necessarily safe or acceptable, and in appropriate circumstances, soils with less than 1% LA may be removed under the current response action. Depending on the accessibility and frequency of exposure, U.S. EPA may direct removal or isolation of soils containing less than 1% LA.

This cleanup is being conducted as a Time-Critical Removal Action. A letter was sent to Steven Kitler of MDEQ on November 4, 2004, asking the State to identify ARARs. Identified Federal and State ARARs will be complied with to the extent practicable.

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.415(l), of the NCP. Elimination of surface threats is, however, expected to minimize the need for post-removal Site control.

All hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage, and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 C.F.R. § 300.440.

The response actions described in this memorandum directly address the actual or threatened release of a hazardous substance, or of a pollutant, or of a contaminant which poses an imminent and substantial endangerment to public health, welfare, or the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action is delayed, potential public health risks posed by asbestos fibers will remain and may be aggravated or increased through further dispersal.

VII. OUTSTANDING POLICY ISSUES

Asbestos removals have been completed in Region 5, and around the country at removal sites under Section 300.415 of the NCP. Because no national asbestos standards for soil exist, U.S. EPA is consulting with ATSDR and MDCH.

Because of the potentially broad impact of the vermiculite ore with high levels of LA, Region 5 has been coordinating with U.S. EPA Headquarters and other regions to assure a consistent approach to LA issues.

VIII. ENFORCEMENT

U.S. EPA plans to issue an administrative order to CSXT requiring it to implement the selected removal actions on its property. As the current owner of the relevant portion of the Site and as a party that may also be responsible for disposal of asbestos contamination on its property, U.S. EPA believes that CSXT is liable for the cleanup activities under Section 107 of CERCLA, 42 U.S.C. §9607.

IX. RECOMMENDATION

This decision document represents the selected Removal Action for CSXT's property at the N-Forcer Site. This response action has been developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site. Conditions at the Site meet the NCP §300.415(b)(2) criteria for a Removal Action, and your approval is recommend. You may indicate your decision by signing below.

APPROVE: _____ for RK Date: 5/19/05
Director, Superfund Division

DISAPPROVE: _____ Date: _____
Director, Superfund Division

Enforcement Addendum

Attachments:

Attachment 1 - Administrative Record Index
Attachment 2 - Site Assessment
Attachment 3 - N-Forcer Action Memo

cc: D. Chung, U.S. EPA, 5203-G
M. Chezik, U.S. DOI, w/o Enf. Addendum
Steven E. Chester, Director, Michigan DEQ, w/o Enf. Addendum
Steve Kitler, Michigan DEQ, w/o Enf. Addendum
Michael Cox, Attorney General, Michigan, w/o Enf. Addendum

ENFORCEMENT ADDENDUM

N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

MAY 2005

ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY

(REDACTED 1 PAGE)

ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

ORIGINAL
FEBRUARY 27, 2005

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	12/00/03	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report for the N-Forcer Site	28
2	10/25/04	MDEQ/ATSDR	U.S. EPA	Health Consultation for the W.R. Grace Dearborn Plant (a/k/a Zonolite Company/WR Grace) **(DRAFT)**	37
3	11/04/04	Kitler, S., MDEQ	Kelly, B., U.S. EPA	E-Mail Transmission re: MDEQ's Request for U.S. EPA Assistance at the N-Forcer Site	2
4	11/08/04	Janus, E., MDCH	El-Zein, J., U.S. EPA	Letter re: MDCH's Request for U.S. EPA Assistance at the Former W.R. Grace Facility	2
5	12/03/04	Johnson, M., ATSDR	Kelly, B., U.S. EPA	E-Mail Transmission re: MDCH/ATSDR's Request for U.S. EPA Assistance at the N-Forcer Site	1
6	02/27/05	Kelly, B., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for a Time-Critical Removal Action at the N-Forcer Site (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	16

UPDATE #1
MAY 13, 2005

1	00/00/04	ATSDR	El-Zein, J., U.S. EPA	Letter re: Request for DHC Implementation	
2	00/00/00	Kelly, B., U.S. EPA	Karl, R., U.S. EPA	Enforcement Action Memo: Determination of Threat to Public Health and the Environment and Selection of a Time-Critical Removal Action at the N-Forcer Site **(PENDING)**	

ATTACHMENT 2
SITE ASSESSMENT
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

MAY 2005

SITE ASSESSMENT REPORT
FOR THE
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
9311 Groh Road
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Prepared by

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Date Prepared	December 4, 2003
TDD Number	S05-0212-001
Document Control Number	323-2A-ACYV
Contract Number	68-W-00-119
START Project Manager	Daniel Capone
Telephone No.	(517) 381-5932
U.S. EPA On-Scene Coordinator	Brian Kelly

SITE ASSESSMENT REPORT
FOR THE
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
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December 4, 2003

Prepared by _____ Date _____
Heather Schichtel
START Site Lead

Approved by _____ Date _____
Daniel M. Capone
START Manager

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SECTION 1

INTRODUCTION

The Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) was tasked by the United States Environmental Protection Agency (U.S. EPA) On-Scene Coordinator (OSC), James Justice, to conduct a site assessment at the N-Forcer Site (N-Forcer) located in Dearborn, Wayne County, Michigan, under Technical Direction Document (TDD) S05-0212-001. This assessment was completed based on previous site visits that indicated potential contamination of asbestos in soil at the site The analysis of the samples collected during the site assessment was completed under TDD S05-0212-002.

The purpose of this site assessment was to gather site-specific information from the N-Forcer Site to determine the necessity of completing a removal action. Specific objectives of the site assessment were to identify each of the following:

- The potential for human health impacts associated with contamination;
- The potential for adverse ecological effects associated with contamination;
- The potential for off-site contaminant migration; and
- Recommendations to U.S. EPA concerning the need for a removal action, further investigation, referral to other government agencies or U.S. EPA programs, or other actions that may be appropriate.

To accomplish these objectives, the site assessment consisted of:

- Reviewing site documentation, which included a Level I Environmental Site Assessment report written in 1992 by Engineering and Testing Services, Inc. (ETSI 1992); a Phase II closure report written in 2001 by Clayton Group Services, Inc. (Clayton 2001); and data provided by U.S. EPA;

- Performing a site reconnaissance: and
- Conducting investigative air and soil sampling.

This site assessment report is organized into the following sections.

Section 1: **Introduction** - Provides a brief description of the objective and scope of the site assessment activities.

Section 2: **Site Background** - Provides the site description, site history, and a summary of previous investigations.

Section 3: **Site Assessment Activities** - Describes the methods and procedures used during the site assessment activities.

Section 4: **Analytical Results** -Discusses the analytical results of samples collected during the site assessment.

Section 5: **Threats to Human Health and the Environment** - Summarizes the potential threats that may affect nearby residences/property owners and the surrounding environment.

Section 6: **Removal Cost Estimate** - Provides recommendations for a removal action and an estimated cost for the proposed removal action.

Section 7: **Conclusions and Recommendations** - Summarizes the findings of the site assessment activities and provides recommendations for further activities.

Section 8: **References** - Provides a list of references utilized in compiling the site assessment report.

SECTION 2
SITE BACKGROUND

2.1 SITE DESCRIPTION

The N-Forcer Site is a light-industrial facility located in a mixed residential, industrial, and recreational area in the city of Dearborn, Wayne County, Michigan. The facility is currently active and used by Die Mold Automation Components, a tool and die manufacturer. The site is located at 14300 Henn Avenue and consists of a 16,000-square-foot steel building with approximately 2,000 square feet of office space, located on a 2.7-acre parcel (Appendix A, Figure 1). There are two parking areas located east and south of the building. A CSX railroad line is located along the northern and eastern boundaries of the property. In 1992, Die Mold Automation Components, the neighboring facility to the west, expanded productions onto this property. The site is partially enclosed by a chain-link fence located north of the building.

2.2 SITE HISTORY

The facility was built in the late 1940s for the original occupants, National Siding, and was used to store manufactured steel siding materials. Zonolite, later purchased by W.R. Grace, and Co., occupied the building from the early 1950's until 1990, and operated an exfoliating plant for vermiculite ore from Libby, Montana. Zonolite manufactured attic insulation and lightweight concrete, and it is possible that asbestos-tainted vermiculite was used during manufacturing operations. A form of amphibole asbestos, referred to as Libby Amphibole (LA), may have been present in the ore, and, therefore, may have been present in the waste materials generated from the exfoliating process. During the period of time that Zonolite operated at the site, waste generated from the site operations (possibly containing LA) was stored inside the facility. Some waste may also have been stored outside the facility for loading, transportation, and disposal. Discussions with former employees and U.S. EPA OSC James Justice indicate that waste, potentially containing LA,

may have been transported off site and used as fill material on residential properties.

In 1992, a Level I Environmental Site Assessment was performed by ETSI. A site reconnaissance was performed during the assessment, but no samples were collected. A confirmed release related to an underground storage tank was reported to the Michigan Department of Natural Resources (MDNR), and the ETSI site assessment indicated that the MNDR did not feel that a sufficient investigation was conducted to confirm that all contaminated soil had been removed from the site.

In 2000, a site visit conducted by the U.S. EPA did not result in recommendations for additional action based on the observed site conditions. On June 25, 2001, Clayton completed Phase II soil sampling activities at the site. Clayton reported that the sampling was conducted in accordance with the Resource Conservation and Recovery Act (RCRA) hazardous waste management unit (HWMU) Closure Work Plan (Clayton 2001).

In September 2002, representatives from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted a follow-up site visit at the request of the U.S. EPA to evaluate the presence of vermiculite ore, stoner rock, and processed asbestos waste. During that visit, ATSDR observed vermiculite ore along the railroad spur that serviced the facility and in soil along the parking lot, and observed a suspicious dust in an old storage area for the stoner rock (OSC Justice 2003).

State and local officials requested assistance from the U.S. EPA to determine if the site qualified for a CERCLA-funded removal action. In January 2003, U.S. EPA tasked WESTON START to conduct a site assessment to determine the potential presence of LA in vermiculite products and waste produced by the former Zonolite facility and determine the possible basis for a removal action at the site.

SECTION 3
SITE ASSESSMENT ACTIVITIES

3.1 SITE RECONNAISSANCE

This section presents the activities conducted and procedures followed by START personnel in conducting the site assessment. START conducted soil and air sampling in accordance with a U.S. EPA-approved Site-Specific Sampling Plan (START 2003). The Site-Specific Sampling Plan specified that up to eight soil samples and two air samples would be collected during the site assessment. Based on actual field conditions encountered during the site assessment, seven soil samples and two air samples were collected.

On January 14, 2003, U.S. EPA OSC James Justice and START member Heather Schichtel conducted a preliminary site reconnaissance of the N-Forcer property. A safety meeting was conducted and hazards associated with the site were discussed. Prior to conducting the site reconnaissance, both personnel reviewed and signed the site Health and Safety Plan (HASP). The site reconnaissance was conducted to observe site conditions and identify appropriate sampling locations.

During the site reconnaissance, the following observations were made:

- The 14300 Henn Avenue property is an active facility. Vehicles were present in the parking area.
- The north side of the property was secured with a chainlink security fence, but the south, west, and east sides of the property were accessible to the public.
- Residential properties are located immediately south of the site.
- There is one existing building on the site.

3.2 SAMPLING ACTIVITIES

Immediately following the site reconnaissance, OSC Justice and START member Schichtel conducted the sampling. Photo documentation of the sampling is presented in Appendix C. Locations of samples collected during the site assessment are shown in Figure 2 in Appendix A.

3.2.1 Air sampling

START Schichtel set up the air sampling equipment at 0845 hours on January 14, 2003. Two air samples were collected during the site assessment and were identified with a WS prefix and a unique number identifier. Air sample WS-1 was collected at the northeast side of the work area within the equipment storage room of the site building, and air sample WS-2 was collected at the southwest corner of the work area inside the site building (Appendix A - Figure 2). Air samples were collected by drawing air through a 25 millimeter diameter mixed cellulose acetate three-piece cassette filter (0.45 micron pore size). The cassette was constructed with electrically conductive extension cowls to minimize electrostatic effects. Based on a toxicologist-selected analytical sensitivity of 0.001 structures per cubic centimeter (S/cc) and because dust levels were expected to be relatively low inside the building, the high-flow air sampling pumps were set at flow rates between 8 and 9 liters per minute (L/min) for an 8-hour period.

U.S. EPA Standard Operating Procedure (SOP) 2015 (Asbestos Sampling) and START SOP 807 (Asbestos Sampling) were followed during the collection of the air samples. Sample volumes and sample times are summarized along with the analytical results for each sample in Table 4-1 (Appendix B). Analytical results are discussed in Section 4.

3.2.2 Composite Soil Sampling

Composite soil samples were collected using a 5-point compositing technique, in accordance with START SOP 104: Surface Soil Sampling. In each given target area, five representative points were identified, and equal volumes of soil were collected from each point and combined in one sampling bag. Four composite samples were collected on the N-Forcer property and were identified as soil composite (SC) samples with unique number identifiers. Soil composite sampling locations are shown in Figure 2 in Appendix A.

Soil sample SC-1 was collected from a grass and dirt area north of the site building and south of the railroad spur. Soil sample SC-2 was collected from the east side of the eastern parking lot. The soil sampled in this area was soil from below the railroad tie retaining wall that appeared to have been washed off the parking lot and adjacent dirt areas. Soil sample SC-3 was collected from the area along the railroad spur and immediately west of the railroad spur, along the eastern side of the property. Soil sample SC-4 was collected from a grassy area between the trees lining the north side of Henn Avenue.

3.2.3 Grab Sampling

Grab samples were collected by removing soil/waste from a discrete single point. Three grab samples were collected during the site assessment and were identified as "GB" samples with a unique numerical identifier. Samples GB-1 and GB-2 were collected from bare soil areas where tremolite had been observed on a previous site visit and confirmed by the OSC and START during the site reconnaissance. Sample GB-1 was collected from the area downhill from the railroad spur at the southeast corner of property, and sample GB-2 was collected from a bare dirt area near the southwest corner of the east parking lot.

OSC Justice and START Schichtel observed exfoliated vermiculite insulation behind a slatted wall on the west side of the work area in the equipment storage room of the 14300 Henn Avenue

building. START Schichtel collected one waste sample (GB-3) of this material. The sample consisted of small-particles that appeared to contain fine pieces of silvery rock. Grab sampling locations are shown in Figure 2 in Appendix A.

3.3 SAMPLE ANALYSIS

Air samples were analyzed for asbestos by EMSL Analytical Laboratory in Plymouth, Minnesota, via Phase-Contrast Microscopy (PCM) using NIOSH Method 7400 (Issue 2, 4th Edition, August 15, 1994), and Transmission Electron Microscopy (TEM) using the Asbestos Hazard and Emergency Response Act (AHERA) Method (EPA 40 CFR Part 763 Final Rule). TEM air sampling results were compared to U.S. EPA Region V Removal Action Guidelines for tremolite asbestos. PCM air sampling results were compared to OSHA regulations but were not compared to U.S. EPA Region V Action levels for tremolite asbestos because of different units. Air sampling results are discussed in Section 4.1.

All composite and grab soil and waste samples were analyzed by EMSL Analytical Laboratory in Plymouth, Minnesota, via PLM using U.S. EPA Method 600/R-93/116 and TEM using EPA Method 198.4. TEM soil sampling results were compared to U.S. EPA Region V Removal Action Guidelines for tremolite asbestos. PLM soil sampling results were used to verify the TEM tremolite asbestos concentrations in the soil/waste.

3.4 SAMPLE HANDLING

Sample identification, documentation, and chain-of-custody procedures followed during the site assessment were in accordance with START SOP 101: Logbook Documentation, START SOP 102: Field Notes, and START SOP 103: Chain-of-Custody Documentation. Proper chain-of-custody was maintained during collection, storage, and transportation of all samples. Site assessment samples were shipped via overnight courier to EMSL Analytical Laboratory in Plymouth, Minnesota.

SECTION 4
ANALYTICAL RESULTS

Analytical results of samples collected during the site assessment are summarized in Tables 4-1 and 4-2. Copies of the laboratory analytical data sheets are provided in Appendix D. Seven soil/waste samples and two air samples were collected and analyzed for tremolite asbestos. The sample analyses were completed and reported in accordance with Level II data package deliverables. A discussion of the analytical results and comparison to regulatory standards is provided below.

To determine the magnitude of contamination posed by past operating practices at the N-Forcer Site, the analytical results were compared to U.S. EPA Region V Removal Action Guidelines used at comparable sites in Minneapolis, Minnesota, and U.S. EPA Region VIII removal standards used in Libby, Montana. The tremolite asbestos Removal Action Guidelines for U.S. EPA Region V, developed for a tremolite asbestos removal in Minneapolis, Minnesota, state that tremolite asbestos is considered a hazard to human health and the environment if there are:

- Visible tremolite rocks at the surface of the area of interest;
- 1% or greater asbestos in soil where tremolite is not visible; or
- More than 0.001 tremolite asbestos structures/cubic centimeter (S/cc) in the air.

All of the soil/waste samples collected from the N-Forcer Site (except sample SC-1) exceeded at least one of the above U.S. EPA Region V Removal Action Guidelines. One of the air samples collected inside the 14300 Henn Avenue building contained tremolite asbestos at levels above 0.001 S/cc.

4.1 Tremolite Asbestos Results

A summary of the tremolite asbestos analytical results as compared to Region V Removal Action Guidelines are provided in Appendix B, Tables 4-1 and 4-2. Sampling locations and results are also shown in Appendix A, Figure 2, "Asbestos Sampling Locations: Air and Soil". Photo

documentation of all sampling locations is presented in the Photo Log (Appendix C).

The contaminant of concern, tremolite asbestos, exceeded the U.S. EPA Region V Removal Action Guidelines in the following areas:

- Within the building, at the southwest corner of the equipment storage room, the air sample (WS-2) analytical results indicated that tremolite asbestos was present above the Region V Removal Action Guideline of <0.001 S/cc. The analytical results of the grab sample (GB-3) collected from this area indicate a tremolite asbestos concentration (6.9%) that exceeds the 1% Region V Removal Action Guideline.

- Four area that qualify for removal action under the Region V Removal Action Guidelines because of visible tremolite rock included the following:

  - North of the building;
  - Along the eastern boundary of the property;
  - In the southeast corner of the property; and
  - By the southwest corner of the eastern parking lot.

- Analytical results for samples SC-3 (1.9% tremolite) and GB-1 (2.6% tremolite) collected outside of the building indicate an exceedance of the allowable levels of tremolite asbestos under the Region V Removal Action Guidelines.

- Samples SC-1, SC-2, SC-4 and GB-2 collected outside the building contained less than 1% tremolite asbestos, and, therefore, did not exceed Region V Removal Action Guidelines. However, according to the Region V Removal Action Guidelines, areas without visible contamination and sampling results of less than 1% must also be addressed during the removal if other areas on the property exceed Removal Action Guidelines.

SECTION 5

DISCUSSION OF POTENTIAL THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Conditions present at the N-Forcer Site would warrant an appropriate removal action as set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP). The elevated levels of tremolite asbestos contamination in soil and waste on site exceed the U.S. EPA Region V Removal Action Guidelines.

After reviewing the analytical results of samples collected during the site assessment, EPA has determined that the following conditions exist at the N-Forcer Site, posing actual or potential immediate threats to the surrounding environment or the nearby human populations:

- **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

  The N-Forcer Site has a perimeter fence around part of the site area, but the rest of the property is accessible to the public. Analytical results of samples collected during the site assessment indicate that areas on site and near the boundaries of the property contain concentrations of tremolite asbestos in soil that exceed the Region V Removal Action Guidelines. In addition, there is potential that the asbestos contamination may have migrated off site (grab sample GB-1). There were also detectable levels of tremolite asbestos in at least one air sample collected from inside the building, which indicates that material within the building may also pose a threat to human health. Due to the areas of concern (areas immediately north of the building, in the east parking lot, the east side of the property, and the southeast corner of the property) and the nearby residential properties, the concentrations of tremolite asbestos found on site may warrant a removal action.

- **High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.**

  There were indications of tremolite asbestos in surface soils that may migrate off site based on the sample collected at the property boundary (grab sample GB-1). Preliminary sampling results indicate that areas on the boundaries of the property may be affected by tremolite asbestos contamination, and that asbestos-containing material (ACM) may have migrated off site. There is also testimony from former employees indicating that material may have

been taken off site and placed on residential properties (OSC Justice 2003), but this allegation was not further explored during the site assessment.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

  Severe dry weather and wind may cause off-site migration of the tremolite asbestos in the surface soils near the property boundaries. Dry weather and winds may also cause contaminated surface soil particulate to become air borne, which may cause inhalation and ingestion hazards to the public and workers at the facility.

SECTION 6

REMOVAL COST ESTIMATE

The analytical results of samples collected during the site assessment document the presence of tremolite asbestos that exceeds the U.S. EPA Region V Removal Action Guidelines. Therefore, a removal action at the N-Forcer Site is recommended at this time. The extent of potential off-site contamination is uncertain and should be further evaluated. Projected costs of removal of tremolite asbestos in soils at residential properties off site could be determined after an extent of contamination assessment of off-site properties is conducted and have not been calculated at this time.

The development of cost estimates for a removal at the N-Forcer Site was based in part on costs incurred at similar U.S. EPA-lead removals, and assumes an estimated excavation depth of 6" to 12" in all impacted areas. The minimum excavation depth of 6" was determined by U.S. EPA toxicologists to be a relatively safe barrier; however, in areas of visible tremolite contamination, U.S. EPA Region V Removal Action Guidelines recommend excavation up to 18".

As a result of the relatively widespread amount of tremolite asbestos contamination identified at the N-Forcer Site, the removal cost estimate presented in Table 6.1 of Appendix B totals approximately $398,690, and is based on the following assumptions:

- 30 days of removal site activities with 5 ERRS personnel; and
- One START member for 30 days; a second START member for 15 days, and Project Management support for 20 hours.

SECTION 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The N-Forcer Site, located at 14300 Henn Avenue, Dearborn, Wayne County, Michigan was historically used as a vermiculate processing facility from the 1950's to the late 1980's. The facility is currently operated by Die Mold Automation Components, a tool and die manufacturer. The site is located in a mixed residential, industrial, and recreational area of Dearborn. Private homes are located across Henn Avenue from the property. The U.S. EPA conducted a site assessment of the property on January 14, 2003.

The site is partially secured by a chain link fence but off-site migration of contamination and airborne fiber releases are possible. Visible tremolite contamination was observed along the southern and eastern boundaries of the property. Seven soil characterization samples and two air samples were collected and analyzed for asbestos. Based on the analytical results of samples collected during the site assessment, potential off-site migration of contamination and exposure of workers and local residents to LA from the N-Forcer Site may pose an immediate threat to human health and the environment.

7.2 RECOMMENDATIONS

Based on the conclusions of the site assessment, START recommends that a removal action be conducted at the N-Forcer Site. Analytical results of soil and air samples collected during the site assessment exceeded U.S. EPA Region V Removal Action Guidelines developed at similar U.S. EPA Superfund sites with tremolite contamination in Regions V and VIII.

START also recommends that nearby residential properties and former Zonolite employee's

properties be inspected and possibly sampled to evaluate potential tremolite asbestos contamination.

SECTION 8

REFERENCES

Clayton Group Services. 2001. *Level II Site Assessment Report.*

Engineering and Testing Services, Inc., 1992. *Level I Environmental Site Assessment Report.*

Justice, J. 2003. Personal Communication with On-Scene Coordinator.

United States Environmental Protection Agency (U.S. EPA). 1994. SOP 2015: Asbestos Sampling, Revision No. 0.0.

U.S. EPA, 1987. Asbestos Hazard and Emergency Response Act (AHERA) Protocol. 40 CFR Part 763.

U.S. EPA, 1998. National Oil and Hazardous Substances Contingency Plan, National Priorities List. 40 CFR 300.415.

WESTON Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START). 2003. *Field Sampling and Analysis Plan.* Chicago, IL.

WESTON START, 1996. *Compendium of START Standard Operating Procedures* (SOP), SOP No. 101: Logbook Documentation. Delran, NJ.

WESTON START, 1996. *Compendium of START Standard Operating Procedures*, SOP No. 102: Field Notes. Delran, NJ.

WESTON START, 1996. *Compendium of START Standard Operating Procedures*, SOP No. 103: Chain-of-Custody Documentation. Delran, NJ.

WESTON START, 1996. *Compendium of START Standard Operating Procedures*, SOP No. 104: Surface Soil Sampling. Delran, NJ.

WESTON START, 1996. *Compendium of START Standard Operating Procedures*, SOP No. 807: Asbestos Sampling. Delran, NJ.

APPENDIX A

Figures

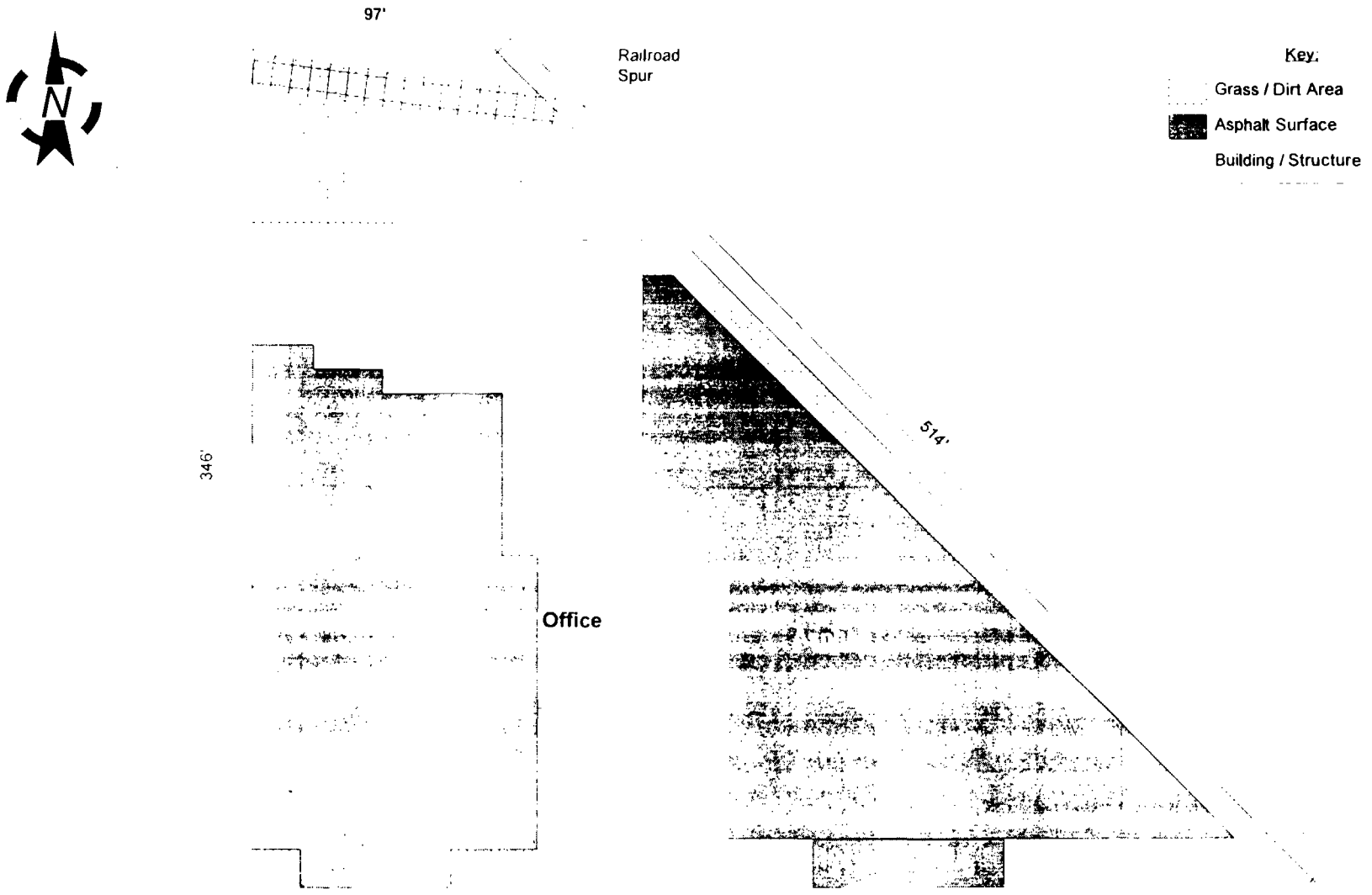

Figure 1

Superfund Technical Assessment
and Response Team
Contract No 68-W-00-119
TDD No. S05-0212-001
Document Control 323-2A-ACYV

N-Forcer

Site Location Map
Dearborn, Wayne County, Michigan

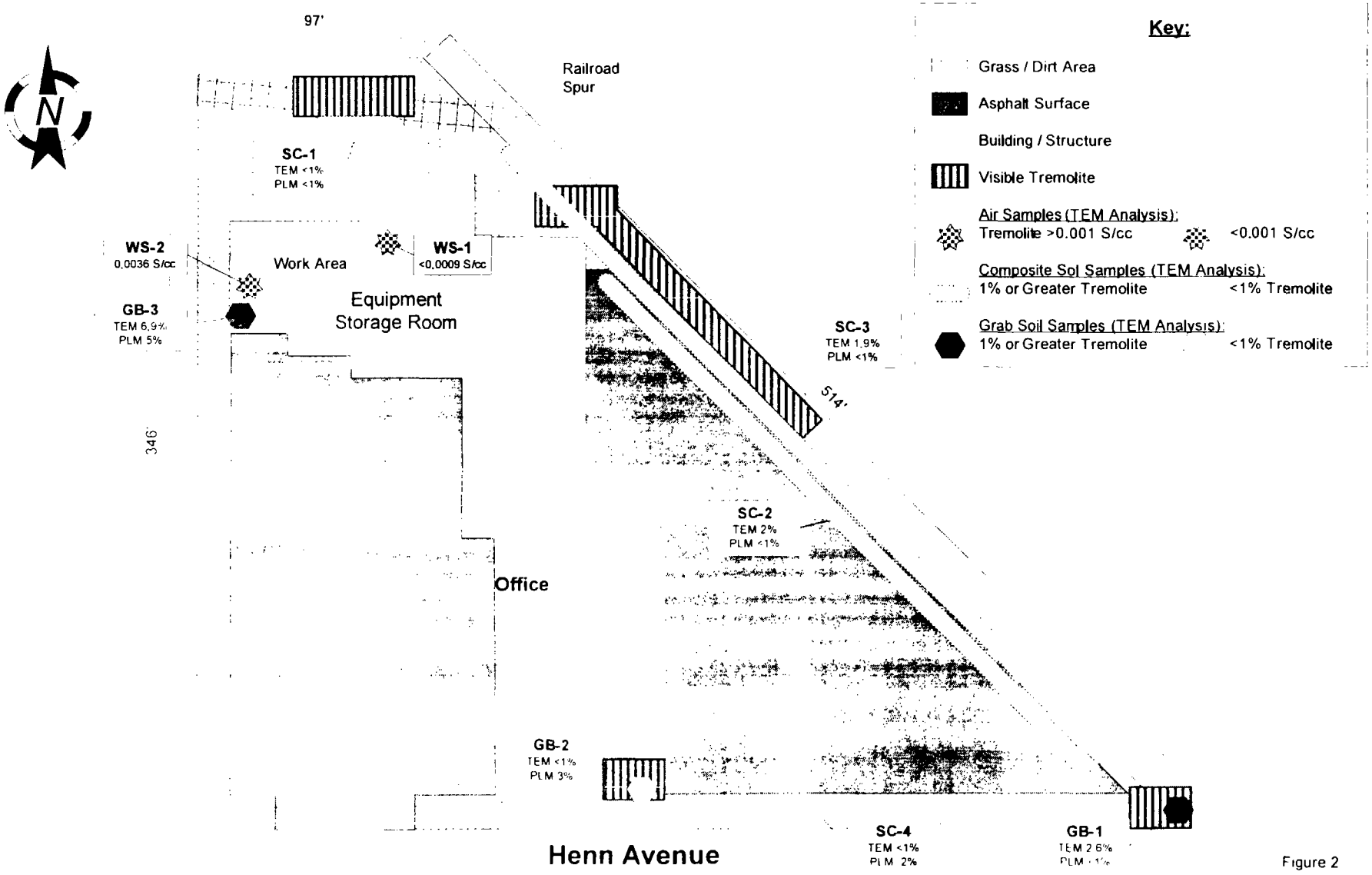

Figure 2

WESTON SOLUTIONS

Superfund Technical Assessment and Response Team
Contract No. 68-W-00-119
TDD No. S05-0212-001
Document Control 323-2A-ACYV

N-Forcer
Asbestos Sampling Locations, Air and Soil
Site Location Map
Dearborn, Wayne County, Michigan

APPENDIX B

Tables

Table 4-1

Asbestos Air Sampling Results
N-Forcer Site, Dearborn, Michigan

Field Sample ID	WS-1	WS-2
Sample Date	01/14/03	01/14/03
Sample Start Time	08:37	08:46
Sample Volume (Liters)	4155.54	4129.29
Tremolite (S/cc) *AHERA TEM Analysis*[1]	0.0036	<0.0009
Asbestos (f/cc) *PCM Analysis*	0.002	0.003

f/cc - Fibers per cubic centimeter.
S/cc - Structures per cubic centimeter.
Highlighted cells indicate values that exceed EPA Region V Removal Action Guideline of 0.001 S/cc.

[1] Transmission Electron Microscopy utilizing the AHERA Method (EPA 40 CFR Part 763 Final Rule).

Phase-Contrast Microscopy utilizing the NIOSH Method 7400 (Issue 2, 4th edition, August 15, 1994). Analysis was done to compare with OSHA regulations, but cannot be compared to EPA Region V Removal Action Guidelines because of the different units.

Table 4-2

Asbestos Soil Sampling Results
N-Forcer Site, Dearborn, Michigan

Field Sample ID	SC-1	SC-2	SC-3	SC-4	GB-1	GB-2	GB-3
Sample Date	01/14/03	01/14/03	01/14/03	01/14/03	01/14/03	01/14/03	01/14/03
Sample Time	09:10	09:30	09:40	10:15	9:50	10:05	10:25
Sample Type	Composite	Composite	Composite	Composite	Grab	Grab	Grab
Tremolite (% asbestos) *PLM Analysis*[1]	<1%	2%	<1%	2%	<1%	3%	5%
Tremolite (% asbestos) *TEM Analysis*[2]	<1%	<1%	1.9%	<1%	2.6%	<1%	6.9%

% asbestos - Structures per cubic centimeter
Highlighted cells indicate values that exceed EPA Region V Removal Action Guidelines of 1% asbestos in soil.

[1] Polarized Light Microscopy utilizing the EPA-approved Methodology 600/R-93-116
[2] Transmission Electron Microscopy utilizing the ELAP 198.4 Method

APPENDIX C

Photo Log

APPENDIX D

Analytical Results and Data Validation

EMSL Analytical, Inc.

14375 23rd Avenue North
Minneapolis, MN 55447
Phone: (763) 449-4922 Fax: (763) 449-4924

Attn.: Linda Korubka
Weston Solutions, Inc.
2501 Jolly Road
Suite 100
Okemos, MI 48864

Friday, January 17, 2003

Ref Number: MN03127

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: N-Forcer 12634-001-001-0323 COC#0001

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
SPT-011403-SC1	Site Characterization #1	Tan/Gold/Brown Non-Fibrous Heterogeneous	Teased/Crushed	< 1% Tremolite Actinolite	< 1% Cellulose	90% Mica 10% Other
SPT-011403-SC2	Site Characterization #2	Brown Non-Fibrous Heterogeneous	Teased/Crushed	2% Tremolite Actinolite	< 1% Cellulose	< 1% Mica 98% Other
SPT-011403-SC3	Site Characterization #3	Brown Non-Fibrous Heterogeneous	Teased/Crushed	< 1% Tremolite Actinolite	< 1% Cellulose	5% Mica 95% Other
SPT-011403-SC4	Site Characterization #4	Brown Non-Fibrous Heterogeneous	Teased/Crushed	2% Tremolite Actinolite	< 1% Cellulose	< 1% Mica 98% Other
SPT-011403-GB1	Grab Sample #1	Brown Non-Fibrous Heterogeneous	Teased/Crushed	< 1% Tremolite Actinolite	< 1% Cellulose	< 1% Mica 100% Other
SPT-011403-GB2	Grab Sample #2	Brown Non-Fibrous Heterogeneous	Teased/Crushed	3% Tremolite Actinolite	2% Cellulose	< 1% Mica 95% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Jodie Bourgerie
Analyst

Approved
Signatory

Disclaimers: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Analysis performed by EMSL Minneapolis (NVLAP Air and Bulk #200819-0.)

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Okemos, MI 48864

Friday, January 17, 2003

Ref Number: MN03127

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: N-Forcer 12634-001-001-0323 COC#0001

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
SPT-011403-GB3	Grab Sample #3	Tan/Gold Fibrous Heterogeneous	Teased/Crushed	5%	Tremolite Actinolite		None Detected	95%	Misc < 1% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Jodie Bourgerie
Analyst

Approved
Signatory

EMSL Analytical, Inc.

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Okemos, MI 48864

Friday, January 17, 2003

Reference Number: MN03128

Analysis of New York State NOB's Performed by Transmission Electron Microscopy (TEM) ELAP 198.4 Method*

Project: 12634-001-001-0323 N-Forcer COC #0001

Sample ID	Sample Description	Sample Matrix	% Weight of Organic Material	% Weight of Acid Soluble Material	Asbestos Type	TEM Results* % Asbestos
SPT-011403-SC1	Site Characterization #1	Brown	28.4	0.1	Tremolite	<1.0
SPT-011403-SC2	Site Characterization #2	Brown	27.1	10.7	Tremolite	<1.0
SPT-011403-SC3	Site Characterization #3	Brown	34.4	3.1	Tremolite	1.9
SPT-011403-SC4	Site Characterization #4	Brown	23.0	3.9	Tremolite	<1.0
SPT-011403-GB1	Grab Sample #1	Brown	32.0	2.4	Tremolite	2.6
SPT-011403-GB2	Grab Sample #2	Brown	31.1	4.2	Tremolite	<1.0
SPT-011403-GB3	Grab Sample #3	Brown	6.0	1.9	Tremolite	6.9

Analyst

Approved Signatory

*Results near 1% are not reliable by this method and a more accurate SEM method is recommended
**To ensure results, EMSL recommends the use of SEM as a quality control measure. Without SEM QC the current diagnosis error rate for TEM/NOB and TEM/Chatfield occurs at a frequency of approximately 1-2% of samples analyzed. Without SEM QC, EMSL is not responsible for errors which could have been prevented with SEM QC.
NVLAP# 200019-0

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Friday, January 17, 2003

Ref Number: MN03129
Analysis Date 1/16/03

PHASE CONTRAST MICROSCOPY (PCM) FIBER COUNT BY NIOSH METHOD 7400, ISSUE 2, 4TH EDITION, 8/15/94

Project: N-Forcer 12634-001-001-0323 COC#0001

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	fibers/ mm²	LOD f/cc	fibers/cc
ATP-011403-WS1 HHID#778, EOC		1/14/03	4156.64	20.0	100	25.48	0.001	0.005
ATP-011403-WS2 HHID#778, EOC		1/14/03	4129.29	22.5	100	28.66	0.001	0.005

Dana Gordhamer
Analyst

Approved Signatory

Disclaimers: LOD = Limit of Detection. This method assumes the limit of detection is 7 fibers/mm². The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. This report relates only to the samples reported above. This report may not be reproduced, except in full, without written approval by EMSL

Analysis performed by EMSL Minneapolis ()

EMSL Analytical, Inc.

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Okemos, MI 48864

Friday, January 17, 2003

Ref Number: MN03130

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Final Rule (AHERA)

Project: N-Forcer 12834-001-001-0323 COC#0001

Sample ID	Volume (liters)	Asbestos Type(s)	# STRUCTURES > 0.5µ < 5µ	# STRUCTURES ≥ 5µ	# STRUCTURES Non-Asbestos	Area Analyzed (mm²)	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm²)	Asbestos Concentration (S/cc)
ATP-011403-WS1 HHID#778, EOC	4155.54	Tremolite Actinolite	1	3	2	0.1032	0.0009	38.76	0.0038
ATP-011403-WS2 HHID#778, EOC	4129.29	None Detected			0	0.1032	0.0009	<9.69	<0.0009

Daria Gordhamer
Analyst

Approved Signatory

ATTACHMENT 3
N-FORCER ACTION MEMO
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

MAY 2005

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
EMERGENCY RESPONSE BRANCH
9311 GROH ROAD, ROOM 216
GROSSE ILE, MI 48138-1697

ACTION MEMORANDUM

REPLY TO ATTENTION OF:

SUBJECT: Request for a Time-Critical Removal Action at the N-Forcer Site in Dearborn, Wayne County, Michigan (Site ID #B55P)

FROM: Brian Kelly, On-Scene Coordinator
Emergency Response Section 1

TO: Richard C. Karl, Director
Superfund Division

THRU: Thomas Geishecker, Acting Chief
Emergency Response Branch

I. PURPOSE

This action memorandum requests and documents approval to expend up to $961,000 to conduct a time-critical removal action at the N-Forcer Site (also known as W.R. Grace & Company Dearborn plant and the Henn Street facility), 14300 Henn Street, Dearborn, Wayne County, Michigan, 48126. The proposed removal action is necessary to mitigate the immediate threat to public health posed by the presence of fibrous amphibole Libby Asbestos (LA). The asbestos contamination is the result of expansion of vermiculite from W R Grace's Libby, Montana, mine.

The response action proposed will mitigate the threats by: identifying facility soils contaminated with asbestos using modified polarized light microscopy (MPLM) or similar method; removing asbestos from all soil areas on the Site where asbestos is present at levels above 1% or which may pose an inhalation hazard; defining and investigating potential off-site locations where asbestos from the Site may have migrated or been moved; and removing asbestos from up to eight identified off-site locations where asbestos is present at levels above 1% or which may pose an inhalation hazard.

The proposed removal action is time-critical because of continued potential pathways of exposure.

This removal action will not address residential indoor materials or viable consumer products. The project will require an estimated 44 (34 removal, 10 day sampling) on-site working days to complete.

Asbestos removals are nationally significant. U.S. EPA is following Agency for Toxic Substances and Disease Registry (ATSDR), Michigan Department of Community Health (MDCH), and Michigan Department of Environmental Quality (MDEQ) guidance on cleanup levels. The removal will follow precedents and protocols set by other asbestos cleanups. The N-Forcer Site is not on the National Priorities List.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID #MIN 000 508 756

A. Site Description and Background

The former W.R. Grace & Company (WRG) Dearborn plant (also known as the Henn Street Facility, Dearborn plant, and N-Forcer Site) is located at 14300 Henn Street, Dearborn, Wayne County, Michigan. Land use in the surrounding neighborhood includes recreational (a soccer field is located across the street), residential, educational, commercial, and industrial. The Site is currently defined as the 2.7 acre parcel at 14300 Henn Street, Dearborn, Michigan. The parcel currently has a single 16,000-square-foot building, which was utilized for the processing of vermiculite ore into attic insulation and lightweight concrete aggregate. The original Site consisted of a railroad spur, where raw ore was off loaded, two storage silos, exfoliation furnaces, and bagging/processing space. Processing of vermiculite ore ended in 1989, when WRG ceased operations at the Dearborn plant. The storage silos and exfoliation furnaces were dismantled and removed and the railroad spur is no longer used.

During the 1950s, the Zonolite Company started leasing the facility to process vermiculite ore from Libby, Montana. In 1963, the Zonolite Company was acquired by WRG and continued to use the Dearborn plant to manufacture attic insulation and lightweight concrete products using Libby vermiculite ore. Die, Mold & Automation Components, Inc. (DMACI), currently operates on the Site.

According to WRG shipping records, the Dearborn plant processed about 206,000 tons of vermiculite ore from Libby, Montana, from 1966 to 1988 (this may be an underestimate as WRG likely started processing vermiculite at least 10 years prior to 1966). Over time, it became known that vermiculite ore mined from Libby was contaminated with asbestos fibers, including the amphibole asbestos varieties tremolite and actinolite, as well as the related fibrous asbestiform minerals winchite, richterite, and ferro-edenite. In this document, the asbestos in Libby vermiculite is referred to as LA.

Studies throughout the 1980s indicated that vermiculite workers showed increased rates of asbestos-related respiratory diseases. The findings at Libby and sites processing ore from Libby provided the impetus for investigating the Dearborn Site, as well as other sites across the nation that received asbestos-contaminated vermiculite from the Libby mine.

B. Vermiculite Processing

Vermiculite is a non-fibrous, platy weathered mica mineral type used in many commercial and consumer applications. Raw vermiculite ore is used in gypsum wallboard, cinder blocks, and other products. Exfoliated vermiculite ("popped" vermiculite) is formed by heating the ore to approximately 2,000 degrees Fahrenheit, which explosively vaporizes the water contained within the mineral structure and causes the vermiculite to expand by 10 to 15 times. The finished, expanded product is used as loose fill insulation (mainly for attics), a fertilizer carrier, and an aggregate in lightweight concrete.

ATSDR and MDCH interviews with former workers report that employees had the opportunity to take off-spec product (i.e. "popped" vermiculite) home for private use, typically as fill material in driveways or yards. Interviews with local residents indicated that there were large piles of silvery gray material in the southeast corner of the facility near the railroad tracks during the early-to-mid 1960s. It was reported that children would play in these piles and that some would load wagons of the material to bring home. Other residents described a gondola-like structure located near the office of the facility that would be loaded with bags of silvery material that people would pick up and use at their residence. Given the description of the material and the detection of LA in the surface soil near these locations on the facility, it is likely that the material that children played in and was brought to their homes was the waste stoner rock from the vermiculite exfoliation process. This stoner rock waste material is known to contain high levels of LA.

WRG reportedly cleaned the Dearborn plant in 1990, collecting four air samples inside the building and one outside the building to document their cleanup. Sample results, presumably from phase contrast microscopy analysis, indicated airborne fiber levels at 0.0005 fibers per cubic centimeter (f/cc), which is below the current Occupational Safety and Health Administration permissible exposure limit of 0.1 f/cc asbestos.

C. Off-Site Migration of Plant Materials

The vermiculite exfoliation process is known to produce large amounts of aerosolized particulate dust. In the case of Libby vermiculite, this dust may contain asbestos species consistent with the Montana ore (including tremolite and actinolite). Based on community interviews, dust from the Dearborn operation was known to frequently migrate off-site. Off-site migration of fugitive materials has been documented in several Inspection Reports and Complaint Cards filed through the Wayne County Air Quality Management Division from 1983 through 1990.

Adding to these complaints is a letter from the City of Dearborn to the Michigan Department of Public Health (now the MDCH). The subject line of the letter is "Manufacturer of Insulating Product (Vermiculite), Releasing Product into Surrounding Neighborhood." The complainant, a carpenter working in the area, reported that his

crew became ill after "ingesting the airborne product." The complainant described symptoms such as bitter taste, coughing, and vomiting.

D. Site Visits and Sampling

U.S. EPA inspected former vermiculite processing plants throughout the U.S. in 2000 to ascertain whether these sites still contained asbestos-contaminated vermiculite or related waste materials. U.S. EPA visited the Dearborn plant on February 25, 2000, to conduct a Phase I field inspection and owner interview. The resulting Preliminary Inspection Report, dated March 8, 2000, concluded that "no visual evidence of vermiculite from the Libby, Montana, mine was observed anywhere on the property." The WRG Dearborn plant was classified by U.S. EPA as "No Further Action Necessary." This initial assessments have been revised based on more recent investigations and information.

On September 27, 2002, staff from ATSDR, U.S. EPA, and MDCH visited the DMACI facility as part of ATSDR's National Asbestos Exposure Review. During this visit, staff observed vermiculite ore on the ground on the north and southeast areas of the property. Staff also observed material consistent with stoner rock behind the wooden slats of an interior wall in the main DMACI building.

These findings led ATSDR to ask U.S. EPA to test the wall cavity material, the indoor air of the room where the material was located, and several on site soil samples for asbestos. On January 14, 2003, U.S. EPA collected four composite and two grab soil samples from around the property as well as two air samples from the work area and one grab sample of material from the interior wall space inside the main building. Analysis of the on-site composite surface soil samples (taken from five separate locations 0-2 inches below the surface) showed concentrations of tremolite and actinolite asbestos species ranging from non-detect (<1%) to 3%. The material in the wall cavity was found to contain from 5% to 6.9% asbestos, depending on the analytical method used. The detection limit of <1% is not a health-based standard, but represents the detection limit of the two methods used for the composite and grab samples.

E. Community Characteristics

In Michigan, the low-income percentage is 29% and the minority percentage is 18%. To meet the Environmental Justice (EJ) concern criteria, the area within 1 mile of the Site must have a population that is twice the state low-income percentage and/or twice the state minority percentage. That is, the area must be at least 58% low-income and/or 36% minority. At this Site, the low-income percentage is 51% and the minority percentage is 23% as determined by Arcview 3.0 EJ analysis. Therefore, this Site does not meet the Region's EJ criteria based on demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998."

F. Enforcement Activities

On April 9, 2003, a General Notice of Potential Liability was sent to the current Site owner Paul Martin. Discussions with Mr. Martin resulted in his agreement to remove and stabilize asbestos found inside the building. On March 3, 2004, Mr. Martin's consultant, Next Generation Service Group, submitted close out documentation of removal or stabilization of the indoor asbestos. As Mr. Martin did not notify U.S. EPA before implementing the cleanup plan, U.S. EPA is continuing to evaluate the work.

On April 9, 2003, a General Notice of Potential Liability was sent to W.R. Grace & Co. W.R. Grace & Co. informed U.S. EPA they were in bankruptcy and would not be participating in a cleanup.

On July 9, 2003, a General Notice of Potential Liability was sent to the adjacent property owner CSX Transportation. CSX sampled the railroad property adjacent to the former W.H. Grace facility, and on November 16, 2004, CSX consultant Arcadis reported the first round of sample results showed no asbestos. These results are inconsistent with U.S. EPA's results taken directly adjacent to the railroad property, which showed levels of asbestos between 1 and 6 percent. U.S. EPA is awaiting the second round of results.

G. MDCH and ATSDR Health Consultation Conclusions

MDCH has prepared a health consultation for the Site on behalf of ATSDR. The health consultation includes several conclusions concerning potential health risks currently presented by Site-related asbestos contamination. The conclusions as they apply to a U.S. EPA removal are summarized below:

1. The presence of asbestos-contaminated material (ACM) within the main building posed an indeterminate public health hazard to current workers at the Dearborn Site prior to its removal in December 2003. Likewise, exposure of household contacts of current DMACI workers prior to December 2003 posed an indeterminate public health hazard. It should be noted that airborne concentrations were found to be quite low and that the magnitude of this pathway is reduced compared to other historical pathways of exposure. Currently, this pathway probably represents no apparent health hazard to workers or their household contacts; however, efforts are ongoing to verify this conclusion (U.S. EPA and the Health Agencies are reviewing the current owners cleanup).

2. There are areas of residual LA contamination remaining in on-site soils. Exposure of workers, visitors, trespassers, and contractors to LA-contaminated soils on Site poses an indeterminate public health hazard. Changes in the condition or use of the property may exacerbate on-site exposures.

3. The Dearborn plant no longer processes vermiculite at the Site. The pathways for current or future community exposure to airborne Libby asbestos from facility emissions and to on-site waste piles have been greatly reduced, yet there remains an indeterminate health hazard. There is a small but potential risk that still exists from residual vermiculite contamination in the on-site soils, either from off-site migration of the soils or from resident exposure to unrestricted areas of the DMACI property. Plans to perform sampling in the surrounding neighborhood are ongoing and may lead to a re-evaluation of this hazard category as appropriate.

4. Residential indoor exposure to household dust containing Libby asbestos fibers from past plant emissions or waste rock brought home for personal use is considered no apparent health hazard for present and future community members. There is a small but potential risk that still exists from off-site migration of the residual vermiculite contamination in the on-site soils. Plans to perform sampling in the surrounding neighborhood are ongoing and may lead to a re-evaluation of this hazard category as appropriate.

5. Currently, individuals within the community could be exposed to airborne Libby asbestos from waste rock used as fill material, for gardening, or for paving driveways. This exposure pathway is an indeterminate public health hazard because insufficient information is available to determine the extent of the use of waste material within the community. Ongoing interviews and data collection from the neighborhood may lead to a re-evaluation of this hazard category as appropriate.

Table 3 of the Health Consultation performed by the MDCH, under Cooperative Agreement with the U.S. Department of Health and Human Services ATSDR, listed a number of potential pathways. Those relevant to this removal action are:

Table 3: Summary of Inhalation Pathways Considered for the WRG Dearborn, MI Site

Pathway Name	Exposure Scenario(s)	Past Pathway Status	Present Pathway Status	Future Pathway Status
On-site Soils	On-site workers, contractors, or community members disturbing contaminated on-site soils (residual contamination, buried waste)	Complete	Potential	Potential
Residential Outdoor	Community members using contaminated vermiculite or waste material at home or exposed as a result of windborne deposition from the facility	Potential	Potential	Potential

H. MDCH and ATSDR Health Consultation Recommendations for the Facility and Off-Site Locations

1. Verify that areas of contaminated vermiculite remaining inside the DMACI building, have been appropriately cleaned up. Verify remediation results with post-cleanup indoor air sampling or other appropriate techniques.

2. Characterize the extent and magnitude of remaining vermiculite contamination in on-site soils. Based on the results of the characterization, develop a plan to eliminate or reduce future exposures.

3. Characterize the degree and magnitude of remaining contamination in off-site soils in the neighborhood immediately surrounding the former WRG facility.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

The conditions at the N-Forcer Site present an imminent and substantial threat to the public health, or welfare, and the environment, and meet the criteria for a time-critical removal action provided for in the National Contingency Plan (NCP), Section 300.415, Paragraph (b)(2). These criteria include, but are not limited to, the following:

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances;

As documented by sampling conducted on-site, the concentrations of asbestos found in the surface soil show a human exposure pathway exists.

(ii) High levels of hazardous substances in soils largely at or near the surface, that may migrate;

Vermiculite and pieces of amphibole asbestos are visible at the site surface, and could be potentially re-aerosolized and transported off-site by vehicles, bicycle, and pedestrian traffic. Wind, particularly in dry summer months, can also lead to off-site migration of fine asbestos fibers from contaminated surface soils. Rainfall and snow melt would also tend to wash the fibers off of the Site and to nearby streets and sewers.

Currently, U.S. EPA has not established an asbestos level in soil below which an exposure does not pose a risk. The 1% cut-off level for regulation under the Toxic Substances Control Act abatement program was established on the basis of analytical capability at the time, and was not established based on the level of risk represented. MDEQ has identified an asbestos cleanup criteria of 1% based on detection limits, which is a default to the "target detection limit." U.S. EPA has determined that in certain settings, concentrations of less than 1% posed unacceptable inhalation risks when subject to disturbance.

(iii) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

The warmer temperatures and dry weather typical in the summer and fall months in Dearborn will contribute to the migration of asbestos-containing soils. As soils dry they are more likely to be transported by wind, causing the asbestos to become airborne and available for inhalation. In the spring time snow melt, rainfall, or other forms of run-off will tend to spread the asbestos off Site.

(iv) The availability of other appropriate Federal or State response mechanisms to respond to the release

No other Local, State, or Federal agency is in the position or currently has the resources to independently implement an effective response action to address the on-going threats presented at the Site. U.S. EPA will conduct its actions in cooperation with State and local authorities. ATSDR, MDCH, and MDEQ have requested U.S. EPA assistance

IV. ENDANGERMENT DETERMINATION

The predominant fibrous nature of minerals found at the N-Forcer Site are LA amphibole asbestos. Asbestos can cause asbestosis and is a recognized human carcinogen, causing lung cancer and mesothelioma, a lethal neoplasm of the lining of the chest and abdominal cavities. Cancer of the larynx and esophageal lining has also been associated with exposure to asbestos. Commercial forms of asbestos have been found to be carcinogenic in experimental animals. The ATSDR and MDCH have recommended actions to remove the threat and close the human exposure pathways.

Actual or threatened releases of asbestos from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, and the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The OSC proposes to undertake the following actions to mitigate the potential threats posed by the presence of hazardous substances at the Site:

1. Develop and implement a Health and Safety Plan and Site Security Plan;
2. Identify potential off-site locations through an air dispersion model and interviews, newspaper ads, and a public meeting, where residents will be asked to identify vermiculite fill around their homes;
3. Develop and implement an on-site and off-site sampling plan using the MPLM screening level (subsurface areas such as parking lots and sidewalks will not be sampled);
4. Determine the horizontal extent of asbestos contamination in the contaminated soils and identify areas requiring response actions;
5. Excavate and remove asbestos-contaminated soils to a maximum depth of 18 inches or otherwise prevent exposure from on site surface soils from areas contaminated with ≥1% asbestos or which may pose an inhalation hazard;
6. Excavate and remove or otherwise prevent exposure from asbestos contaminated off-site soils if investigations find no more than 8 affected homes;
7. Dispose of contaminated soils at an EPA-approved off-site disposal facility in accordance with the U.S. EPA Off-Site Rule (40 CFR §300.440);
8. Perform personal air sampling and ambient air sampling during removal activities;
9. Implement engineering measures to control dust during the cleanup;
10. Install a recognizable marker at the bottom of the excavated area prior to backfill if asbestos remains;
11. Analyze samples using modified and standard PLM and Transmission Electron Microscopy (or comparable analytical method) to assess whether contamination is present and whether sufficient excavation has occurred; and
12. Backfill excavated areas with clean soil and restore property to original pre-removal condition;

It is important to note that U.S. EPA does not assert that soil concentration of less than 1% LA are necessarily safe or acceptable, and in appropriate circumstances, soils with less than 1% LA may be removed under the current response action. Depending on the accessibility and frequency of exposure, U.S. EPA may elect to remove or isolate soils containing less than 1% LA.

During a conference call on October 28, 2004, between U.S. EPA, ATSDR and MDCH, the health agencies, in particular MDCH, cited Michigan 201 regulations in support of a 1% screening level. Based on guidance from the health agencies, U.S. EPA intends to use the MPLM for screening, remove asbestos above 1% or which may cause a inhalation hazard to a maximum estimated depth of 18 inches, and resample. If asbestos contamination remains after the 18 inch excavation, U.S. EPA will install a marker to show the extent of excavation. Activity-based sampling may be used on a case-by-case basis, in consultation with ATSDR and MDCH.

This cleanup is being conducted as a Time-Critical Removal Action. A letter was sent to Steven Kitler of MDEQ on November 4, 2004, asking the State to identify ARARs. Identified Federal and State ARARs will be complied with to the extent practicable.

In accordance with Section 300.415(l), U.S. EPA will pursue appropriate arrangements for post-removal Site controls to ensure the long-term integrity of the removal.

All hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage, and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 C.F.R. § 300.440.

The response actions described in this memorandum directly address the actual or threatened release at the Site of a hazardous substance, or of a pollutant, or of a contaminant which poses an imminent and substantial endangerment to public health, welfare, or the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

The estimated cleanup contractor cost is presented in Attachment 1 and estimated project costs are summarized below.

B. Estimated Costs

The following cost estimates include costs associated with the removal actions for purposes of creating a total project ceiling. These costs are being estimated anticipating that the project will need to be performed as a fund lead action. The costs do not include any past or future investigation costs on the site. Costs are projected as follows:

Regional Removal Allowance Costs	
Cleanup Contractor Costs	$ 602,883
ERT	$ 80,000
U.S. Coast Guard Atlantic Strike Team	$ 20,000
Other Extramural Cost Not Funded from the Regional Allowance:	
START	$ 100,253
Subtotal, Extramural Subtotal	$ 803,136
Extramural Costs Contingency (20% of Subtotal)	$ 160,627
TOTAL, Removal Action Project Ceiling	$ 964,000 (rounded)

This estimate is based on a 1 acre cleanup of the Site and an estimated eight affected homes off Site. It should be noted that at the Western Mineral Site significantly more than eight homes were found to be contaminated. If greater than eight homes are found to be contaminated, the OSC will prepare an action memorandum amendment or refer the Site to other programs (State, Remedial, etc)

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action is delayed, potential public health risks posed by asbestos fibers will remain and may be aggravated or increased through further dispersal.

VII. OUTSTANDING POLICY ISSUES

Asbestos removals have been completed in Region 5, and around the country at removal sites under Section 300.415 of the NCP and NESHAPS regulation under 40 CFR Section 61.150. Because no national asbestos standards for soil exist, U.S. EPA is consulting with ATSDR and MDCH.

Because of the potentially broad impact of the vermiculite ore with high levels of LA, Region 5 is coordinating with U.S. EPA Headquarters and other regions to assure a consistent approach to LA issues.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in the attached Enforcement Confidential Addendum.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $1,465,000.

($ 964,000 + $65,000[1]) + (42.38%[2] x $1,029,000) = $1,465,000 (rounded)

IX. RECOMMENDATION

This decision document represents the selected Removal Action for the N-Forcer Site, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site. Conditions at the Site meet the NCP §300.415(b)(2) criteria for a Removal Action, and your approval is recommend. The total project ceiling, if approved, will be $964,000. Of this, $863,510 may be used for cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: Richard Karl Date: 2-27-05
Richard Karl, Director
Superfund Division

DISAPPROVE:_____ Date:_____
Richard Karl, Director
Superfund Division

[1]Direct Costs include direct extramural costs and direct intramural costs.

[2]Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

Enforcement Addendum

Attachments:

Attachment 1 - Cleanup Contractor Costs
Attachment 2 - Administrative Record Index
Attachment 3 - ATSDR Draft Health Consultation
Attachment 4 - Environmental Justice Analysis
Attachment 5 - Independent Government Cost Estimate

cc: D. Chung, U.S. EPA, 5203-G
M. Chezik, U.S. DOI, w/o Enf. Addendum
Steven E. Chester, Director, Michigan DEQ, w/o Enf. Addendum
Steve Kitler, Michigan DEQ, w/o Enf. Addendum
Michael Cox, Attorney General, Michigan, w/o Enf. Addendum

ATTACHMENT 2

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
N-FORCER SITE
DEARBORN, WAYNE COUNTY, MICHIGAN

ORIGINAL
DECEMBER 2, 2004

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	12/00/03	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report for the N-Forcer Site **(DRAFT)**	28
2	10/25/04	MDEQ/ATSDR	U.S. EPA	Health Consultation for the W.R. Grace Dearborn Plant (a/k/a Zonolite Company/WR Grace) **(DRAFT)**	37
3	11/04/04	Kitler, S., MDEQ	Kelly, B., U.S. EPA	E-Mail Transmission re: MDEQ's Request for U.S. EPA Assistance at the N-Forcer Site	2
4	11/08/04	Janus, E., MDCH	El-Zein, J., U.S. EPA	Letter re: MDCH's Request for U.S. EPA Assistance at the Former W.R. Grace Facility	2
5	12/03/04	Johnson, M., ATSDR	Kelly, B., U.S. EPA	E-Mail Transmission re: MDCH/ATSDR's Request for U.S. EPA Assistance at the N-Forcer Site	1
6	00/00/00	Kelly, B., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for a Time-Critical Removal Action at the N-Forcer Site **(PENDING)**	